



## New combinations in *Phanera* (Leguminosae; Cercideae) from Brazil

*Novas combinações em Phanera (Leguminosae; Cercideae) do Brasil*

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### Abstract

Twenty-nine new combinations and one new synonym are proposed in *Phanera* for species previously treated as *Bauhinia*. The occurrence of each species in Brazil is noted. The lectotypification of *Bauhinia alata* and *B. radiata* is proposed. *Phanera alata* is illustrated.

**Key words:** *Bauhinia*, Neotropics, South America, taxonomy.

### Resumo

São propostas vinte e nove novas combinações e um novo sinônimo em *Phanera* para espécies previamente tratadas como *Bauhinia*. A ocorrência no território brasileiro é citada para cada espécie nomeada. Lectotipificações de *Bauhinia alata* e *Bauhinia radiata* são propostas aqui. *Phanera alata* é ilustrada aqui.

**Palavras-chave:** *Bauhinia*, Neotropical, América do Sul, taxonomia.

## Introduction

Species of *Phanera* Lour. are predominantly of tropical lowland humid evergreen forests or rain forests as well as dry forest – caatinga and other types of vegetation. This genus comprises about 120–130 species, which are most abundant in South Asia, Malesia and South America (Lewis & Forest 2005).

Wunderlin *et al.* (1981) circumscribed the tribe Cercideae Bronn as including two subtribes: Cercidinae and Bauhiniinae (Benth.) Wunderlin. The genus *Bauhinia* L. was later subdivided into four subgenera, 22 sections, and 30 series. One of the subgenera, *Bauhinia* subg. *Phanera* (Lour.) Wunderlin, Larsen et Larsen included the neotropical sections *Schnella* (Raddi) Benth. and *Caulotretus* DC. (Wunderlin *et al.* 1987).

Lewis & Forest (2005) recognized the genera *Barklya* F. Muell., *Gigasiphon* Drake, *Lasiobema* (Korth) Miq., *Lysiphyllum* (Benth.) de Wit, *Phanera*, *Piliostigma* Hochst. and *Tylosema* (Schweinf.) Torre & Hillc. as distinct from *Bauhinia s. str.* Their treatment included the sections *Schnella* and *Caulotretus* under *Phanera*, as well as five other paleotropical sections from *B.* subg. *Phanera*. More recent analyses by Bruneau *et al.* (2008, p. 708) corroborated the taxonomic treatment of Lewis & Forest (2005) and showed that

*Bauhinia s. str.*, *Phanera* and *Lysiphyllum* are supported as monophyletic. Sinou *et al.* (2009) verified that *Phanera* may not be monophyletic, despite the weak support suggesting it as a paraphyletic group.

Therefore, a systematic revision of *Phanera* genus is still needed. Queiroz (2006) proposed the new combinations for *Phanera flexuosa* (Moric.) L.P. Queiroz, *Phanera microstachya* (Raddi) L.P. Queiroz and *Phanera outimouta* (Aubl.) L.P. Queiroz, and described a new species, *Phanera tricosepala* L.P. Queiroz. Also, Vaz (1979, 1984, 1993, 1995a,b, 2003), Bortoluzzi *et al.* (2006), and Wunderlin & Eilers (2009) all treated the *Phanera* species as *Bauhinia s.l.* Vaz (1979) presented a revision of the Brazilian species of sect. *Caulotretus* (*Tylotaea*) and Wunderlin & Eilers (2009) revised the neotropical species of sect. *Schnella*.

Vaz *et al.* (2010) presented a key to Cercideae genera in Brazil.

The present work however presents adjustments in the nomenclature demanded by new advances in the molecular phylogeny of the tribe Cercideae. These changes have resulted in adopting a broader circumscription for the genus *Phanera* in order to include the neotropical lianas with tendrils, small flowers with buds globose to ovoid, cupulate hypanthium, calyx campanulate 3–5 lobed

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or tubular, 4–30 mm long.; 10 fertile stamens, seeds orbiculate 1(2)–5. New occurrences of species from Brazil are also given.

## Material and Methods

The following herbaria were consulted using photographs of type specimens: A, F, FI, K, LE, and M. The following herbaria were also consulted: ASE, BHC, BHM, C, CEN, CEPEC, CEUL, CGMS, CH, CPAP, CTES, CVRD, EAC, ESA, FACB, GRAH, GUA, HAC, HUEFS, HUFU, FFCLPR-USP, HB, HEPH, HRB, IAC, IAN, IBGE, INPA, IPA, JBSD, JPF, MBM, MBML, MEXU, MG, MO, NY, OXF, P, R, RB, RBR, RFA, RUSU, S, SI, SJRP, SP, SPF, SPSF, TEPB, UB, UEC, UFG, UFMT, US, VIC, and W (abbreviations follow Holmgren *et al.* 1990). Selected herbarium material is indicated in the text below by collector, and his number and herbarium abbreviation.

The names of accepted species are listed alphabetically. Author citations follow Authors of Plant Names (Brummitt & Powell 1992). Book abbreviations follow Taxonomic Literature, 2nd ed. (Stafleu & Cowan 1976–1988; Stafleu & Menega 1992–2000). Periodicals are abbreviated according to *Botanico-Periodicum-Huntianum-2* (Bridson *et al.* 2004).

The delimitations of the Brazilian biomes follow the Biomes Map (IBGE 2004).

## Results and Discussion

*Phanera* Lour., Fl. cochinch. p. 37. 1790. *Bauhinia* sect. *Phanera* (Lour.) Wunderlin, Larsen & Larsen, Biol. Skr. 28: 18. 1987.

*Schnella* Raddi, Mém Nat. Fis. Soc. Ital. Sci. Modena, St. Mem Fis. 18: 411. 1820.

*Bauhinia* sect. *Caulotretus* DC., Prodr. 2: 516. 1825.

*Bauhinia* sect. *Tylotaea* Vogel, Linnaea 13: 212. 1839.

*Phanera* sect. *Meganthera* de Wit, Reinwardtia 3(4): 440. 1956;

In the protologue Loureiro (1790) has already discussed the similarity between *Phanera coccinea* Lour. and that of the neotropical *Bauhinia outimouta* Aubl. in terms of both habit and fruit. The diagnostic characters of the genera *Phanera* cited by Loureiro (1790) and De Wit (1956) which also correspond to the American *Phanera* species are as follows: tendrilled lianas or scandent shrubs; tendrils circinate; stems compressed and undulated (named “cipó-escada” in Brazil); leaves bilobed, entire or consisting of two free leaflets; stipules ovate, rounded-auriculate or linear; flowers medium-sized or small, often showy,

in corimbose or elongated racemes; stigma capitate or peltate; and seeds laterally compressed orbiculate.

Brazilian species of *Phanera* were treated by Benth (1870) and the diagnostic characters of the sections *Schnella* Raddi and *Caulotretus* DC. (*Tylotaea* Vogel) were indicated: section *Schnella* is distinguished from section *Caulotretus* by its five-nerved or inconspicuous nerved calyx, ovary 1-rarely 2-ovulate, and an indehiscent thin-valved fruit (vs. conspicuously 10- or 15-nerved calyx, ovary 3-6-ovulate and a dehiscent woody fruit).

*Phanera alata* (Ducke) Vaz, *comb. nov.* *Bauhinia alata* Ducke, Arch. Jard. bot. Rio de Janeiro 4: 55. 1925. Type: BRAZIL. PARÁ: Rio Tapajós, Vila Braga, 24.V.1923, fl., A. Ducke s.n. (lectotype designated here, RB 16972!; isolectotype P!). Fig. 1

Endemic to Brazil in the States of Pará and Amazonas (*M.J.G. Hopkins et al.* 1612 (P); *Cid et al.* 818 (IAN, RB); A. Vaz 1187 (RB); H.C. Lima s.n. (RB 199403); J. Kuhlmann s.n. (RB 43661)).

Robust liana (woody vine) with large flowers, approximately 5–6 cm at anthesis, petals dark pink (Vaz 1979, 1995b). Found in forests of the Amazonia biome. There is a cultivated specimen growing in the Rio de Janeiro Botanical Garden from Ducke’s original collections (May 2010) as annotated in *schedule* of the lectotype (see also Ducke 1930).

*Phanera altiscandens* (Ducke) Vaz, *comb. nov.* *Bauhinia altiscandens* Ducke, Bol. Tec. Agron. Norte 2: 17. 1944. Type: BRAZIL. AMAZONAS: Esperança, “ad ostium fluminis Javary”, 28.I.1942, fl., A. Ducke 895 (holotype RB!; isotype MG!, SI!).

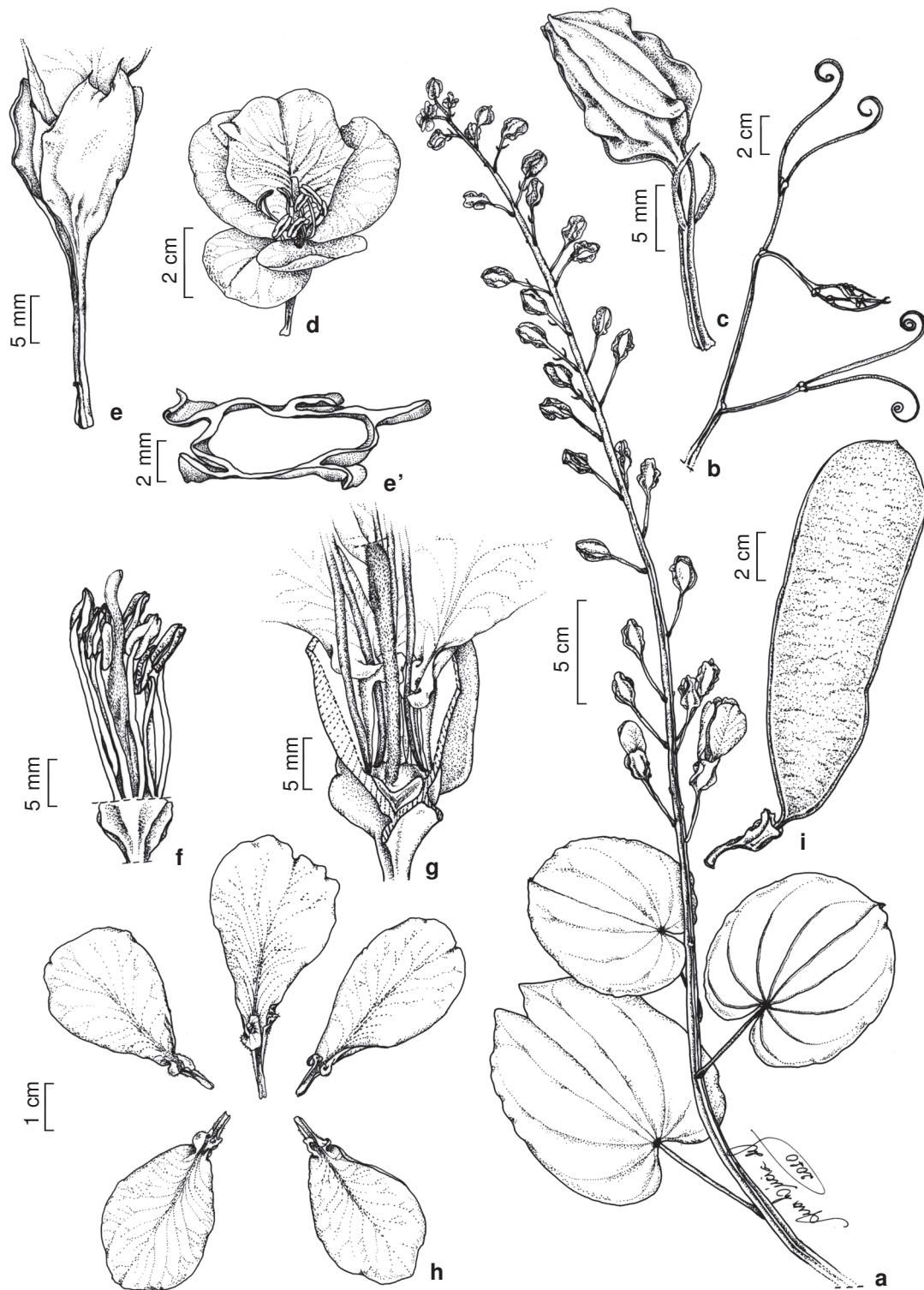
Endemic to the Brazilian States of Amazonas (Vaz 1979) and Acre (*P. Delprete et al.* 7939 (NY, RB); *D.C. Daly et al.* 11152 (NY, RB)).

Robust liana (woody vine) in *terra firme* and *várzea* (seasonally inundated) forests and in open forest areas with palm trees in the Amazonia biome.

*Phanera anamesa* (J.F. Macbr.) Vaz, *comb. nov.* *Bauhinia anamesa* J.F. Macbr., Contr. Gray herb. Harv., n. ser., 59: 22. 1919. *Bauhinia punctata* Benth., Fl. bras. 15(2): 211. 1870, *nom. illeg.* Type: BRAZIL. GOIÁS: Goiás Velho (“prope urbem Goyaz”), fl., *Burchell Cat. Geog. Pl. Bras.* 7337 (holotype K, K Neg. 16937, photo RB!).

Endemic to the Brazilian States of Goiás and Mato Grosso (1979, 2003).

Liana (woody vine) or decumbent shrub in the *Cerrado* (savanna) biome.



**Figure 1** – *Phanera alata*. (Ducke) Vaz – a. flowering branch; b. tendrils; c. bud; d. flower showing stamens; e. calyx; e'. cross section of the calyx; f. stamens and gynoecium; g. longitudinal section showing cupulated hypanthium with gynoecium, filaments and small appendages of petals; h. petals; i. fruit. (a-b, d, g-h Vaz 1187; c Lima s.n. RB 199403; i Ducke s.n. RB 16972; e-e'-f Kulmann s.n. RB 43661). Illustration by Ana Lucia Souza

***Phanera angulosa*** (Vogel) Vaz, *comb. nov.* *Bauhinia angulosa* Vogel, *Linnaea* 13: 312. 1839. Type: BRAZIL. In *Brasilia meridionalis*, fl., *Sellow s.n.*, (holotype B destroyed, F negative 1566, photo RB!).

Endemic to the Brazilian States of Minas Gerais, Rio de Janeiro, Paraná and Santa Catarina (Vaz 1979, 1993; Bortoluzzi *et al.* 2006). Reports registered here of new occurrences for the States of Bahia (*W.W. Thomas et al.* 13361 (NY)) and Espírito Santo (*G. Hatschbach et al.* 69115 (MBM, RB)).

Liana (woody vine) or decumbent shrub found in rain forests or seasonally humid forests in the Atlantic Forest biome. See Vaz (1979) for synonyms.

***Phanera carvalhoi*** (Vaz) Vaz, *comb. nov.* *Bauhinia carvalhoi* Vaz, *Brittonia* 47(4): 376. 1995. Type: BRAZIL. BAHIA: Uruçuca, Serra Grande, Itacaré, Fazenda Lagoa do Conjunto Santa Cruz, 7. IX. 1991, fl., *A.M. Carvalho et al.* 3610 (holotype CEPEC!; isotypes NY, RB!).

Liana (woody vine) or scandent shrub of the Atlantic biome. Endemic to Bahia State.

***Phanera confertiflora*** (Benth.) Vaz, *comb. nov.* *Bauhinia confertiflora* Benth. in Martius, Eichler & Urban, *Fl. bras.* 15(2): 206. 1870. Type: BRAZIL. AMAZONAS: Rio Negro, “sylvis Yapurensibus”, fl., *Martius, iter brasiliensis obsv.* 2974 (holotype M, photo F neg 6217, RB!).

Liana (woody vine) endemic to the Brazilian States of Amazonas and Pará in seasonally inundated forests or forest borders in the Amazonia biome (Vaz 1979).

***Phanera cupreonitens*** (Ducke) Vaz, *comb. nov.* *Bauhinia cupreonitens* Ducke, *Arch. Jard. Bot. Rio de Janeiro* 4: 56. 1925. Type: BRAZIL. PARÁ: rio Mojú, baixo Amazonas, 3. XI. 1923, fl., *A. Ducke s.n.* (holotype RB 16973!; isotype IAN!).

Found in South America in Peru and the Brazilian States of Amazonas and Pará.

Occurs in areas of the Amazonia biome in *terra firme* forests and near rivers (Ducke l.c.).

***Phanera dubia*** (Vogel) Vaz, *comb. nov.*, *Bauhinia dubia* Vogel, *Linnaea* 13: 314. 1839. Type: FRENCH GUYANA. Locality not cited: XII. 1824, fl., *Poiteau s.n.* (holotype B destroyed ?; isotype F! fragment

consisting of a leaf and bud, photo neg. F 1574, photo RB!). *B. coronata* Benth. in Martius, Eichler & Urban, *Fl. bras.* 15(2): 209. 1870.

The examined type material of *Phanera dubia* has smaller bud lobes (less than 1mm long), while the examined Brazilian material has buds with lobes, 1.5–3.5 × 1.5–2 cm (see Vaz (1979) for examined material)

Found in South America in Bolivia and French Guyana, as well as in Brazil in the States of Acre, Amapá, Amazonas, Pará (Vaz 1979), Goiás, Tocantins (Vaz 2003), and Mato Grosso (*G.T. Prance & N.T. Silva* 59423 (NY, UB)).

Liana (woody vine), scandent shrub or shrub with tendrilled apical branches. Occurs in *terra firme* forests and in seasonally inundated and secondary forests in the Amazonia biome, as well as in degraded riparian forest with *babaçu* palms of the *Cerrado* (Savanna) biome.

***Phanera erythrantha*** (Ducke) Vaz, *comb. nov.* *Bauhinia erythrantha* Ducke, *Arch. Inst. Biol. Vegetal Rio de Janeiro* 4: 14. 1938. Type: BRAZIL. AMAZONAS: prope “Borba”, Rio Madeira, 27. IV. 1937, fl., *A. Ducke s.n.* (holotype RB 35434!; isotype IAN!).

One of the most robust lianas of the Amazonia biome (Ducke l.c.). This species is endemic to Amazonas State in *terra firme* forest.

***Phanera glabra*** (Jacq.) Vaz, *comb. nov.* *Bauhinia glabra* Jacq., *Enum. Syst. Pl.* 20. 1760; *Select. Stirp. Amer. Hist.* 119. tab. 173, fig. 3. 1763. Type: COLOMBIA. Cartagena, “in sylvis & fruticis”, *Jacquin* (holotype not located, BM?, W?, see D’Arcy 1970).

*Bauhinia cumanensis* Kunth., *Nov. Gen. Sp.* 6 (*in folio*): 321. 1824 (1823). Type: VENEZUELA. Cumana, *Herbier Humboldt & Bonpland n. 160* (holotype P!).

*Schnella longipetala* Benth., *J. Bot.* 98. 1840. *Bauhinia longipetala* (Benth.) Walp., *Repert Bot. Syst.* 1: 852. 1843. Type: GUYANA. Pacaraima and Parime Mountains, 1839, fl., *Schomburgk s.n.* (holotype K, photo RB!, K neg. 16936).

Liana or scandent shrub. Occurs in the tropical Americas from Mexico to South America, including the Brazilian States of Acre, Amazonas, Ceará, Maranhão, Mato Grosso, Mato Grosso do Sul, Pará, Piauí, Rondônia, Roraima and Tocantins (Vaz 1995b).

***Phanera grazielae*** (Vaz) Vaz, *comb. nov.* *Bauhinia grazielae* Vaz, Atas Soc. Bot. Brasil, Secç. Rio de Janeiro 2(9): 73. 1984. Type: BRAZIL. ESPÍRITO SANTO: Mata de Dourados, 6.XI.1953, fl., A.P. Duarte & C. Gomes 3683 (holotype RB!; isotypes CVRD!, K!).

Liana or scandent shrub. Endemic to the eastern coast of Brazil in Espírito Santo State and in the northern region of Rio de Janeiro State (M.C. Souza et al. 433 (RB)), both in the Atlantic Forest biome.

***Phanera guianensis*** (Aubl.) Vaz, *comb. nov.* *Bauhinia guianensis* Aubl., Hist. pl. Gui. 1: 377. 1775. Type: FRENCH GUIANA: locality not cited, fr., *Aublet s.n.* (holotype BM?).

*Phanera guianensis* (as *Bauhinia guianensis*) was accepted by Wunderlin (1998) and others, in a broad sensu including *Bauhinia splendens* as a synonym. Here *Phanera splendens* (see below) is accepted in the status of species. *Phanera guianensis* does not occur in Brazil.

***Phanera klugii*** (Standl.) Vaz, *comb. nov.* *Bauhinia klugii* Standl. Field. Mus. Bot. 22: 143. 1940. Type: PERU: Chazuta, Rio Huallaga, Dept. San Martín, III.1935, fl., G. Klug 4027 (holotype F; isotype NY!, photo RB!).

Liana (woody vine) endemic to forests of the Amazonia biome. Occurs in Peru and was newly collected in Brazil in Acre State (D.C. Daly et al. 9773 (NY, RB)).

***Phanera kunthiana*** (Vogel) Vaz, *comb. nov.* *Bauhinia kunthiana* Vogel, Linnaea 13: 312. 1839. Type: FRENCH GUIANA, locality not cited, XII. 1824, fl., *Poiteau s.n.* (photo RB!, neg F 1590).

Endemic to forests of the Amazonia biome. Occurs in Venezuela, French Guiana, Suriname, and the Brazilian State of Pará (Vaz 1979). New occurrences are here reported in the Brazilian States of Acre (*O.P. Monteiro & C. Damião 313* (INPA)), Amapá (*B.G.S. Ribeiro 1559* (INPA)), Amazonas (*Rodrigues & Loureiro 7122* (INPA)), and Maranhão (*N.A. Rosa & H. Vilar 2852* (MG)).

***Phanera longiseta*** (Fróes) Vaz, *comb. nov.* *Bauhinia longiseta* Froes, Bol. tec. agron. Norte 19: 95, tab. 12. 1951. Type: BRAZIL. AMAZONAS: São Paulo de Olivença, Rio Solimões, 10.XII.1948, fl., A.L. Froes 23699 (holotype IAN; isotype RB!).

Endemic to forests of the Amazonia biome in São Paulo de Olivença, Amazonas State, Brazil (Vaz

1979). There are not recent collections of this species, which is known only from the type specimen.

***Phanera maximiliani*** (Benth.) Vaz, *comb. nov.* *Bauhinia maximilianii* Benth. in Martius, Eichler & Urban, Fl. bras. 15(2): 203, tab. 51, fig. 11. 1870. Type: BRAZIL. ESPÍRITO SANTO: Vila de Nova Almeida, Serra, fl., *Princeps Maximilianus Neovidensis 1848* (holotype BR; isotype M, photo RB!).

This species does not occur in Rio de Janeiro State, as mentioned by Wunderlin & Eilers (2009).

Liana (woody vine) endemic to the Atlantic Forest biome. This species is rarely collected, and occurs only along the eastern coast of Brazil in the States of Bahia (*R.P. Belem 1409* (CEPEC, fragment RB)) and Espírito Santo (*H.C. Lima et al. 6589* (RB)).

***Phanera platycalyx*** (Benth.) Vaz, *comb. nov.* *Bauhinia platycalyx* Benth. in Martius, Eichler & Urban, Fl. bras. 15(2): 207. 1870. Type: BRAZIL. PARÁ: “ad Caripi”, fl., *R. Spruce 250* (holotype K, photo RB!).

*Bauhinia parviloba* Ducke, Bol. Tecn. Inst. Agron. Norte 2:17. 1944. Type: BRAZIL. PARÁ: Esperança, rio Javari, 10.X.1942, fl., A. Ducke 1069 (holotype IAN!; isotypes R!, RB!).

Liana (woody vine) endemic to forests of the Amazonia biome in the States of Amazonas, Maranhão, and Pará (Vaz 1979). Reported here for the first time from Amapá State (*S. Mori et J. Cardoso 17434* (NY)).

***Phanera poiteuana*** (Vogel) Vaz, *comb. nov.* *Bauhinia poiteuana* Vogel, Linnaea 13: 309. 1839. Type: FRENCH GUIANA: locality not known, 1844, fl., *Poiteau s.n.* (holotype B destroyed; lectotype K, photo RB!, K neg. 16926, designated by Wunderlin & Eilers (2009))

Liana (woody vine) endemic to forests in the Amazonia biome. Occurs in French Guiana and has also been reported from Brazil in the States of Amapá (*R.L. Fróes 25829* (IAC, IAN)), and Pará (*A. Ducke 16963* (MG, RB, S)).

***Phanera porphyrotricha*** (Harms) Vaz, *comb. nov.* *Bauhinia porphyrotricha* Harms, Notizbl. Bot. Gart. Berlin 6: 307. 1915. Type: BRAZIL. ACRE: Rio Acre, Monte Alegre, Seringal São Francisco, IX.1911, fl., E. Ule 9439 (holotype B destroyed; isotype IAN! photo RB! K neg 16940).

Liana (woody vine) or scandent shrub, endemic to the Amazonia biome in Peru and Brazil. Newly collected in Acre State (*N.A. Brilhante 70* (NY)).

***Phanera pterocalyx*** (Ducke) Vaz, *comb. nov.* *Bauhinia pterocalyx* Ducke, Arch. Jard. bot. Rio de Janeiro 3: 109. 1922. Type: BRAZIL. ACRE: Alto Purus, Ponto Alegre, 8.IV.1994, fl., *J. Huber 4401* (holotype MG!; isotype RB!).

Tendrilled scandent shrub with large flowers. Endemic to forests of the Amazonia biome. Occurs in Amazonas State (Vaz 1979) and was also recently collected in Acre State (*A.C. Daly et al. 11527* (NY, RB)).

***Phanera radiata*** (Vell.) Vaz, *comb. nov.* *Bauhinia radiata* Vell., Fl. Flum. Texto 170. 1829 (1825). Type: Fl. Flum., Icones 4, tab. 81. 1831 (1827) (lectotype designated here).

The types of “Flora Fluminensis” were lost and the plate that reproduces the diagnostic characters of a species might be accepted as lectotypes (Carauta 1969, 1973). The plate of *Bauhinia radiata* is a good one to verify the diagnostic characters of the flowers and fruits of this species, which is native to Rio de Janeiro State.

Liana (woody vine) or tendrilled scandent shrub encountered in Brazil in the forests and woody formations of the Atlantic Forest biome along the eastern Atlantic coast (Vaz 1993). Occurs in the States of Bahia, Espírito Santo, Minas Gerais, Pernambuco, Rio de Janeiro, and São Paulo (*G.F. Arbocz 624* (UEC)). Recently collected in the Amazonia biome (forest) in Acre State (*C. Figueiredo et al. 456* (NY, RB)) and in the Cerrado biome in Goiás State (*D.S. Ribeiro 881* (RB)).

***Phanera riedeliana*** (Bong.) Vaz, *comb. nov.* *Bauhinia riedeliana* Bong., Mém. Acad. Imp. Sci. St. Pétersb. ser. 6, Sci. math. nat. 4(2): 113, tab. 2. 1938. Type: BRAZIL. SÃO PAULO: Rio Pardo, X.1826, fl., *Riedel 583* (holotype LE, photo RB!; isotype OXF!).

Previously only known from the type collection (*Riedel 583*, LE); newly found in Mato Grosso do Sul State (*G. Hatschbach & Hatschbach 63419* (MBM, RB)).

This species is endemic to the Cerrado biome, and has a shrub or woody vine habit.

***Phanera rutilans*** (Spruce ex Benth.) Vaz, *comb. nov.* *Bauhinia rutilans* Spruce ex Benth., Fl. bras. 15(2): 206, tab. 53, fig. 1. 1870. Type: VENEZUELA: near Esmeralda, Orinoco River, XII.1853, fl., *R. Spruce 3250* (isotypes NY!, RB!, W!).

Liana (woody vine). Endemic to forests of the Amazonia biome. Occurs in the States of Amazonas, Pará (Vaz 1979) and Rondônia (*G. Guarim Neto 67* (INPA)).

***Phanera siqueiraei*** (Ducke) Vaz, *comb. nov.* *Bauhinia siqueiraei* Ducke, Arch. Jard. bot. Rio de Janeiro 3: 108. 1922. Type: BRAZIL. PARÁ: Peixe-Boi, 24.X.1907, fl., *R. Siqueira s.n.* (holotype MG 8790!; isotype RB 11105!).

Liana (woody vine). Endemic to forest formations in the Amazonia biome. Occurs in Guyana and the Brazilian States of Amapá and Pará (Vaz 1979).

***Phanera smilacina*** (Schott) Vaz, *comb. nov.* *Caulotretus smilacinus* Schott in Sprengel, Syst. Cur. Post. 4(2): 406. 1827. Type: BRAZIL. RIO DE JANEIRO: fl. *Schott 5632* (lectotype W!, designated by Wunderlin (2009); isolectotypes K!, US).

Liana (woody vine). Endemic to the Atlantic Forest biome. Occurs in Brazil in the States of Bahia (*D.A. Folli 1196* (RB)) and Rio de Janeiro (*H.C. Lima 2505* (RB); *C.M. Vieira 197* (RB)).

The fruit of *Phanera smilacina* was not included in the type material. Vaz & Lima (1986) redescribed and illustrated this species (as *Bauhinia smilacina*) including the broad elliptic fruit material and seedlings. Later Vaz (1993) presented a key identification to the lianas of the Rio de Janeiro State. This species was misidentified by Wunderlin (2009) as having a “narrow elliptic (at least 4 times as long as wide)”.

***Phanera splendens*** (Kunth) Vaz, *comb. nov.* *Bauhinia splendens* Kunth in Humboldt, Bonpland & Kunth, Nov.gen. sp. 6 (*in folio*): 253. 1823 (1824). *Bauhinia guianensis* var. *splendens* (Kunth) Amshoff. Type: VENEZUELA: Orinoco River, *Herbier Humboldt & Bonpland n. 1186* (holotype P-Bonpl!, photo RB!; isotype B-Willd!).

Liana (woody vine). Endemic to forest formations in the Amazonia biome. Occurs in Venezuela, French Guiana, Bolivia and the Brazilian States of Acre (*Magalhães, F.M.M. f. 384* (INPA, RB)), Amapá, Amazonas, Maranhão, Rondônia, Roraima, and Pará (Vaz 1979). Bentham (1870) described the fertile material of this species as having bifoliate leaves and buds globose with minute acuminate lobes, under 1 mm wide.

***Phanera sprucei*** (Benth.) Vaz, *comb. nov. Bauhinia sprucei* Benth. in Martius, Eichler & Urban, Fl. bras. 15(2): 205. 1870. Type: BRAZIL. AMAZONAS: Panuré, Rio Uaupés, X.1853-I.1863, fl., *R. Spruce 2617* (holotype K, photo RB!; isotypes OXF!, RB!, photo RB!, B ex F neg. 1616).

*Bauhinia sprucei* Benth. var. *acuminata* Benth. in Martius, Eichler & Urban, Fl. bras. 15(2): 205. 1870. Type: BRAZIL. AMAZONAS: Panuré, Rio Uaupés, X.1853-I.1863, fl., *R. Spruce 2890* (holotype K, photo RB!, Kew neg. 16944), *syn. nov.*

Liana (woody vine). Endemic to forest formations found in the Amazonia biome. Occurs in Brazil in Amazonas State (Vaz 1979) and was recently collected in Acre State (*D.C. Daly et al. 11152* (NY, RB)).

***Phanera surinamensis*** (Amshoff) Vaz, *comb. nov. Bauhinia surinamensis* Amshoff, Med. bot. Mus. Rjks. Univ. Utrecht 52: 20.1939. Type: SURINAME. Upper Suriname River, near Kabelstation, 8.XI.1933, fl., *J. Lanjouw 1152* (holotype US, photo RB!; isotypes K, NY, photos RB!).

Liana (woody vine). Endemic to forest formations found in the Amazonia biome. Occurs in Suriname and in the Brazilian States of Amapá, Amazonas (*R.L. Froes 26147* (SI)) and Pará (Vaz 1979).

***Phanera uleana*** (Harms) Vaz, *comb. nov. Bauhinia uleana* Harms, Verb. bot. Ver. Brandenb. 48: 166. 1907. Type: PERU. Depto Loreto, Tarapoto, Juan Guerra, XII.1902. fl., E. Ule 6643 (holotype B?; isotype MG!).

Liana (woody vine). Endemic to forest formations in the Amazonia biome. Occurs in Peru, and in the Brazilian State of Acre (*Krukoff's 4th Exp. to Brazilian Amazonia 5442* (S); *M. Silveira et al. 970* (NY, RB)).

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